



Samoa Secondary Leaving Certificate

AGRICULTURAL SCIENCE 2020

QUESTION and ANSWER BOOKLET

Time allowed: 3 Hours & 10 minutes

INSTRUCTIONS

1. You have 10 minutes to read **before** you start the exam.
2. Write your **Student Education Number (SEN)** in the space provided on the top right hand corner of this page.
3. **Answer ALL QUESTIONS.** Write your answers in the spaces provided in this booklet.
4. If you need more space, ask the Supervisor for extra paper. Write your SEN on all extra sheets used and clearly number the questions. Attach the extra sheets at the appropriate places in this booklet.

STRANDS		Page	Time (min)	Weighting
STRAND 1:	AGRICULTURE IN SAMOA	2	18	10
STRAND 2:	SOILS	4	45	24
STRAND 3:	FARM MANAGEMENT, ECONOMICS AND MARKETING	9	22	12
STRAND 4:	CROP PRODUCTION	11	40	23
STRAND 5:	ANIMAL PRODUCTION	15	43	24
STRAND 6:	TOOLS, EQUIPMENTS AND FACILITIES	20	12	7
TOTAL			180	100

Check that this booklet contains pages 2-22 in the correct order and that none of these pages is blank.
YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Study the picture given below to answer Questions 1 to 3.



1. Name a consumer in the ecosystem.

SL 1

2. Name ONE example of an agricultural practice in an ecosystem.

SL 1

3. List TWO characteristics of a natural ecosystem.

(a) _____

(b) _____

SL 2

4. Explain what a genetically modified organism is.

SL 3

5. Explain the effect of breeding on cross breeding production.

SL 3

6. Define the physical properties of soil texture.

SL 1

7. Define soil structure.

SL 1

8. Define the chemical properties of decomposed soil.

SL 1

9. Define the behavior of microorganisms on the biological properties of humus soil.

SL 1

10. Define the interaction of macro organisms on the biological properties of soil.

SL 1

11. Name a soil forming factor that you have studied.

SL 1

12. Give TWO examples of physical properties of soil texture.

SL 2

13. Describe the chemical properties of sandy soil.

SL 2

14. Explain how nutrients on top soil are affected by liming.

SL 3

Use the picture given below to answer Question 15.



15. Explain how soil structures are affected by soil tilling.

SL 3

Use the picture given below to answer Question 16.



16. Discuss the effect of organic fertilizer on the quality of the soil.

SL 4

Use the picture given below to answer Question 17.



17. Describe the effect of using contouring farm method on the quality of soil on steep slopes.

SL 4

18. Name a goal of the resource manager on a poultry farm.

SL 1

19. Name a type of physical resource on a Taro farm.

SL 1

20. Identify a market opportunity of a cocoa product.

SL 1

21. Define post harvesting.

SL 1

22. Lists TWO types of market opportunities of a breadfruit produce.

(i) _____

(ii) _____

SL 2

23. Explain the post-harvest handling steps used to meet the export market of grading papaya/pawpaw requirements.

SL 3

24. Explain reasons why we have to store produce before exporting.

SL 3

Use the picture given below to answer Question 25.



25. Name the vegetative propagation method shown in the picture above.

SL 1

26. Define a nursery.

SL 1

27. Define an insect pest.

SL 1

28. Name a disease caused by bacteria on tomato plants.

SL 1

29. Define bio-security.

SL 1

30. Define quarantine.

SL 1

31. What is a quota?

SL 1

32. Describe the main group of disease causing viruses that affect water melons.

SL 2

33. Describe the term seed germination.

SL 2

34. Describe metamorphosis.

SL 2

Use the picture given below to answer Question 35.



35. Explain the usage of Integrated Pest Management (I.P.M) control measures that are practiced in Samoa; an example is shown above.

SL 3

36. Explain how seed germination is affected by seed dormancy.

SL 3

Use the picture given below to answer Question 37.



37. Discuss how the growth and development of sexually reproduce plants are affected by genetically modified organisms. (GMO)

SL 4

38. Name ONE farming system for raising layer chickens.

SL 1

39. Identify ONE farming system for raising beef cattle.

SL 1

Use the picture given below to answer Question 40.



40. Name the breed of the beef cattle shown on the diagram.

SL 1

41. Identify a factor that influences the growth and development of livestock in Samoa.

SL 1

Use the picture given below to answer Question 42.



42. Name the endo-parasite shown in the diagram.

SL 1

43. Name an ecto-parasite in cattle.

SL 1

44. What is a coccidiosis disease poultry?

SL 1

45. Describe the characteristics of the local pigs in Samoa.

SL 2

Use the picture given below to answer Question 46.



46. Describe TWO characteristics of the husbandry practices shown on the diagram.

SL 2

47. Describe a calving problem in dairy farming.

SL 2

48. Explain the benefits of rotational grazing in sheep.

SL 3

49. Discuss the importance of good management practices in raising piglets.

SL 4

Use the picture given below to answer Question 50.



50. Discuss the nutritive value of a local improved pasture shown in the picture.

SL 4

Use the picture given below to answer Questions 51 and 52.



X

51. Name the agriculture equipment shown on the diagram.

SL 1

52. Identify the part label X on the diagram.

SL 1

Use the picture given below to answer Question 53.



53. Describe the correct use of the tool shown on the diagram.

SL 2

54. Explain the safety procedures in disposing chemical residues and containers.

SL 3

STUDENT EDUCATION NUMBER									

AGRICULTURAL SCIENCE

2020

(For Scorers only)

STRANDS	Weighting	Scores	Check Scorer	Double Entry (AED)
STRAND 1: Agriculture	10			
STRAND 2: Soils	24			
STRAND 3: Farm Management, Economics and Marketing	12			
STRAND 4: Crop Production	23			
STRAND 5: Animal Production	24			
STRAND 6: Tools, Equipment and Facilities	7			
TOTAL	100			